



<110> KOISHIHARA, YASUO

<120> INHIBITOR OF LYMPHOCYTE ACTIVATION

<130> 053466/0295

<140> 09/760,723

<141> 2001-01-17

<150> 09/367,833

<151> 1998-08-25

<150> PCT/JP98/00831

<151> 1998-02-27

<160> 8

<170> PatentIn Ver. 2.1

<210> 1

<211> 1016

<212> DNA

<213> Homo sapiens

B <220>

<221> CDS

<222> (23)..(562)

<223> Nucleotide sequence of DNA coding for HM1.24 antigen

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Met Ala Ser Thr Ser Tyr Asp Tyr Cys Arg
1 5 10

gtg ccc atg gaa gac ggg gat aag cgc tgt aag ctt ctg ctg ggg ata 100
Val Pro Met Glu Asp Gly Asp Lys Arg Cys Lys Leu Leu Leu Gly Ile
15 20 25

gga att ctg gtg ctc ctg atc atc gtg att ctg ggg gtg ccc ttg att 148
Gly Ile Leu Val Leu Ile Ile Val Ile Leu Gly Val Pro Leu Ile
30 35 40

atc ttc acc atc aag gcc aac agc gag gcc tgc cgg gac ggc ctt cgg 196
Ile Phe Thr Ile Lys Ala Asn Ser Glu Ala Cys Arg Asp Gly Leu Arg
45 50 55

gca gtg atg gag tgt cgc aat gtc acc cat ctc ctg caa caa gag ctg 244
Ala Val Met Glu Cys Arg Asn Val Thr His Leu Leu Gln Gln Glu Leu
60 65 70

acc gag gcc cag aag ggc ttt cag gat gtg gag gcc cag gcc gcc acc 292
Thr Glu Ala Gln Lys Gly Phe Gln Asp Val Glu Ala Gln Ala Ala Thr
75 80 85 90

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tgc aac cac act gtg atg gcc cta atg gct tcc ctg gat gca gag aag		340
Cys Asn His Thr Val Met Ala Leu Met Ala Ser Leu Asp Ala Glu Lys		
95	100	105
 gcc caa gga caa aag aaa gtg gag gag ctt gag gga gag atc act aca		388
Ala Gln Gly Gln Lys Lys Val Glu Glu Leu Glu Gly Glu Ile Thr Thr		
110	115	120
 tta aac cat aag ctt cag gac gcg tct gca gag gtg gag cga ctg aga		436
Leu Asn His Lys Leu Gln Asp Ala Ser Ala Glu Val Glu Arg Leu Arg		
125	130	135
 aga gaa aac cag gtc tta agc gtg aga atc gcg gac aag aag tac tac		484
Arg Glu Asn Gln Val Leu Ser Val Arg Ile Ala Asp Lys Lys Tyr Tyr		
140	145	150
 ccc agc tcc cag gac tcc agc tcc gct gcg gcg ccc cag ctg ctg att		532
Pro Ser Ser Gln Asp Ser Ser Ala Ala Ala Pro Gln Leu Leu Ile		
155	160	165
 gtg ctg ctg ggc ctc agc gct ctg ctg cag tgagatccca ggaagctggc		582
Val Leu Leu Gly Leu Ser Ala Leu Leu Gln		
175	180	
 acatcttggaa aggtccgtcc tgctcggctt ttgccttgaa cattcccttg atctcatcag	642	
ttctgagcgg gtcatggggc aacacggtta gcggggagag cacggggtag ccggagaagg	702	
gcctctggag caggtcttggaa gggccatgg ggcagtcttg ggtgtgggaa cacagtcggg	762	
ttgaccagg gctgtctccc tccagagcct ccctccggac aatgagtccc ccctcttgc	822	
tccccaccctg agattggca tgggtgcgg tgggggggc atgtgctgcc tgggttatg	882	
ggttttttt gcgggggggg ttgctttttt ctgggggttt tgagctccaa aaaaataaac	942	
acttcctttt agggagagca ccacacctt aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa	1002	
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<210> 2
<211> 379
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA encoding L chain V region version of a humanized anti-HM1.24 antibody

<220>
<221> CDS
<222> (1)..(378)

<220>
<221> sig_peptide

<222> (1)..(57)

<220>

<221> mat_peptide
<222> (58)..(378)

<400> 2

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-15	-10	-5

gtc cac tcc gac atc cag atg acc cag agc cca agc agc ctg agc gcc	96
Val His Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala	
-1 1 5 10	

agc gtg ggt gac aga gtg acc atc acc tgt aag gct agt cag gat gtg	144
Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Val	
15 20 25	

aat act gct gta gcc tgg tac cag cag aag cca gga aag gct cca aag	192
Asn Thr Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys	
30 35 40 45	

ctg ctg atc tac tcg gca tcc aac cgg tac act ggt gtg cca agc aga	240
Leu Leu Ile Tyr Ser Ala Ser Asn Arg Tyr Thr Gly Val Pro Ser Arg	
50 55 60	

ttc agc ggt agc ggt acc gac ttc acc ttc acc atc agc agc	288
Phe Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser	
65 70 75	

ctc cag cca gag gac atc gct acc tac tac tgc cag caa cat tat agt	336
Leu Gln Pro Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln His Tyr Ser	
80 85 90	

act cca ttc acg ttc ggc caa ggg acc aag gtg gaa atc aaa c	379
Thr Pro Phe Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys	
95 100 105	

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<210> 3

<211> 418

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA encoding H chain V region version r of humanized anti-HM1.24 antibody

<220>

<221> CDS

<222> (1)..(417)

<220>

<221> sig_peptide

<222> (1)..(57)

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<220>
<221> mat_peptide
<222> (58)..(417)

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-15          -10           -5

gct cac tcc cag gtg cag ctg gtg cag tct ggg gct gag gtg aag aag      96
Ala His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
-1     1           5           10

cct ggg gcc tca gtg aag gtt tcc tgc aag gca tct gga tac acc ttc      144
Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
15          20           25

act ccc tac tgg atg cag tgg gtg cga cag gcc cct gga caa ggg ctt      192
Thr Pro Tyr Trp Met Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
30          35           40           45

gag tgg atg gga tct att ttt cct gga gat ggt gat act agg tac agt      240
Glu Trp Met Gly Ser Ile Phe Pro Gly Asp Gly Asp Thr Arg Tyr Ser
50          55           60

cag aag ttc aag ggc aga gtc acc atg acc gca gac aag tcc acg agc      288
Gln Lys Phe Lys Gly Arg Val Thr Met Thr Ala Asp Lys Ser Thr Ser
65          70           75

aca gcc tac atg gag ctg agc ctg aga tct gag gac acg gcc gtg      336
Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
80          85           90

tat tac tgt gcg aga gga tta cga cga ggg ggg tac tac ttt gac tac      384
Tyr Tyr Cys Ala Arg Gly Leu Arg Arg Gly Gly Tyr Tyr Phe Asp Tyr
95          100          105

tgg ggg caa ggg acc acg gtc acc gtc tcc tca g      418
Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
110         115          120

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<210> 4
<211> 418
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA encoding H
      chain V region version s of anti-HM1.24 antibody

<220>
<221> CDS
<222> (1)..(417)

<220>
<221> sig_peptide

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<222> (1)..(57)

<220>

<221> mat_peptide
<222> (58)..(417)

<400> 4

atg gac tgg acc tgg agg gtc ttc ttc ttg ctg gct gta gct cca ggt	48	
Met Asp Trp Thr Trp Arg Val Phe Phe Leu Leu Ala Val Ala Pro Gly		
-15	-10	-5

gct cac tcc cag gtg cag ctg gtg cag tct ggg gct gag gtg aag aag	96	
Ala His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys		
-1 1	5	10

cct ggg gcc tca gtg aag gtt tcc tgc aag gca tct gga tac acc ttc	144	
Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe		
15	20	25

act ccc tac tgg atg cag tgg gtg cga cag gcc cct gga caa ggg ctt	192		
Thr Pro Tyr Trp Met Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu			
30	35	40	45

gag tgg atg gga tct att ttt cct gga gat ggt gat act agg tac agt	240	
Glu Trp Met Gly Ser Ile Phe Pro Gly Asp Gly Asp Thr Arg Tyr Ser		
50	55	60

cag aag ttc aag ggc aga gtc acc atc acc gca gac aag tcc acg agc	288	
Gln Lys Phe Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser		
65	70	75

aca gcc tac atg gag ctg agc ctg aga tct gag gac acg gcc gtg	336	
Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val		
80	85	90

tat tac tgt gcg aga gga tta cga cga ggg ggg tac tac ttt gac tac	384	
Tyr Tyr Cys Ala Arg Gly Leu Arg Arg Gly Gly Tyr Tyr Phe Asp Tyr		
95	100	105

tgg ggg caa ggg acc acg gtc acc gtc tcc tca g	418	
Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser		
110	115	120

<210> 5

<211> 180

<212> PRT

<213> Homo sapiens

<220>

<223> Amino acid sequence of HM1.24 antigen

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1	5	10	15

Asp Lys Arg Cys Lys Leu Leu Leu Gly Ile Gly Ile Leu Val Leu Leu		
20	25	30

Ile Ile Val Ile Leu Gly Val Pro Leu Ile Ile Phe Thr Ile Lys Ala
 35 40 45

Asn Ser Glu Ala Cys Arg Asp Gly Leu Arg Ala Val Met Glu Cys Arg
 50 55 60

Asn Val Thr His Leu Leu Gln Gln Glu Leu Thr Glu Ala Gln Lys Gly
 65 70 75 80

Phe Gln Asp Val Glu Ala Gln Ala Ala Thr Cys Asn His Thr Val Met
 85 90 95

Ala Leu Met Ala Ser Leu Asp Ala Glu Lys Ala Gln Gly Gln Lys Lys
 100 105 110

Val Glu Glu Leu Glu Gly Glu Ile Thr Thr Leu Asn His Lys Leu Gln
 115 120 125

Asp Ala Ser Ala Glu Val Glu Arg Leu Arg Arg Glu Asn Gln Val Leu
 130 135 140

Ser Val Arg Ile Ala Asp Lys Lys Tyr Tyr Pro Ser Ser Gln Asp Ser
 145 150 155 160

Ser Ser Ala Ala Ala Pro Gln Leu Leu Ile Val Leu Leu Gly Leu Ser
 165 170 175

Ala Leu Leu Gln
 180

<210> 6
<211> 126
<212> PRT
<213> Artificial Sequence

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<220>
<223> Description of Artificial Sequence: Amino acid sequence
of L chain V region version a of humanized anti-HM1.24
antibody

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Met Gly Trp Ser Cys Ile Ile Leu Ser Leu Val Ala Thr Ala Thr Gly
-15 -10 -5

Val His Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala
-1 1 5 10

Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Val
15 20 25

Asn Thr Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys
30 35 40 45

Leu Leu Ile Tyr Ser Ala Ser Asn Arg Tyr Thr Gly Val Pro Ser Arg
50 55 60

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser
 65 70 75

Leu Gln Pro Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln His Tyr Ser
 80 85 90

Thr Pro Phe Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 95 100 105

<210> 7

<211> 139

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Amino acid
 sequence of H chain V region version r of humanized
 anti-HM1.24 antibody

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 -15 -10 -5

Ala His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
 -1 1 5 10

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
 15 20 25

Thr Pro Tyr Trp Met Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
 30 35 40 45

Glu Trp Met Gly Ser Ile Phe Pro Gly Asp Gly Asp Thr Arg Tyr Ser
 50 55 60

Gln Lys Phe Lys Gly Arg Val Thr Met Thr Ala Asp Lys Ser Thr Ser
 65 70 75

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
 80 85 90

Tyr Tyr Cys Ala Arg Gly Leu Arg Arg Gly Gly Tyr Tyr Phe Asp Tyr
 95 100 105

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 110 115 120

<210> 8

<211> 139

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Amino acid sequence
 of H chain V region version s of humanized

anti-HM1.24 antibody

<400> 8

Met Asp Trp Thr Trp Arg Val Phe Phe Leu Leu Ala Val Ala Pro Gly
-15 -10 -5

Ala His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
-1 1 5 10

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
15 20 25

Thr Pro Tyr Trp Met Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
30 35 40 45

Glu Trp Met Gly Ser Ile Phe Pro Gly Asp Gly Asp Thr Arg Tyr Ser
50 55 60

Gln Lys Phe Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser
65 70 75

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
80 85 90

Tyr Tyr Cys Ala Arg Gly Leu Arg Arg Gly Gly Tyr Tyr Phe Asp Tyr
95 100 105

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
110 115 120

B